

REMARKS

Claim 18 has been amended. Proper support for the amendment to claim 18 is found in the specification, at least, at paragraph [0025] of the specification. Claims 1-20 are pending and under consideration. Claims 1, 13 and 18 are the independent claims. No new matter is presented in this Amendment.

REJECTIONS UNDER 35 U.S.C. §102:

Claims 1-3, 6-11 and 13-17 are rejected under 35 U.S.C. §102(b) as being anticipated by Hayashi (U.S. Patent Application Publication No. 2002/0047084).

Regarding the rejection of independent claim 1, it is noted that claim 1 recites a photodetector for, when light emitted from a two-wavelength light source is divided into at least three light components to be reflected by an optical recording medium, detecting the reflected light components, the photodetector comprising: a first detector divided into eight sections detecting the at least three light components reflected by the optical recording medium to convert the light components into a first set of electrical signals; a first calculating portion calculating a first tracking error signal from the first set of electrical signals converted by the first detector by a differential push-pull method; a second calculating portion calculating a first focusing error signal by an astigmatism method and calculating a second tracking error signal by a differential phase detection method from the first set of electrical signals converted by the first detector; a second detector divided into four sections detecting the at least three light components reflected by the optical recording medium to convert the at least three light components into a second set of electrical signals; and a third calculating portion calculating a second focusing error signal by the astigmatism method and calculating a third tracking error signal by the differential phase detection method from the second set of electrical signals converted by the second detector.

The Office Action relies on Hayashi for a teaching of the features of independent claim 1, and in particular, relies on paragraph [0040] for a teaching of the first, second and third calculating portions. However, Applicants note that Hayashi neither teaches nor suggests such novel features of independent claim 1 for, at least, the following reasons.

Hayashi discloses a photodetector 4 composed of a quartered detector of rectangular

shape so that the signal for detecting the focus error is generated by the so-called astigmatism method. Hayashi further discloses that as the tracking detecting method, the so-called phase difference method is used if the DVD is a DVD-ROM while the push-pull method is used if the DVD is DVD-RAM.

Hayashi also discloses that in the photodetector 4, the light receiving element for receiving a zero-order diffracted light, which is located at a central position, is composed of light receiving regions of at least a number equal to four times of a number of the light sources. Hereupon, on the both sides of the light receiving element for receiving the zero-order diffracted light, the light receiving element for receiving the positive first-order diffracted light and the light receiving element for receiving the negative first-order diffracted light are disposed, respectively (i.e., one by one). In the light receiving element, the light receiving regions are composed of region sets each of which includes four light receiving regions. Thus, the light receiving regions are arranged so as to receive the reflected beam which has been emitted by the light source and then reflected by the optical disk. The photodetector 4 may be, for example, a quartered detector. As shown in FIGS. 2 and 4, in the photodetector 4, the light receiving section 4b for receiving the CD reproducing beam and the light receiving section 4a for receiving the DVD reproducing beam are arranged in such a manner that the six photo detecting elements make a matrix composed of two columns and three rows.

Therefore, although Hayashi discloses a photodetector including a first (4a) and a second detector (4b), Hayashi makes no reference or suggestion of the first, second and third calculating portions, recited in independent claim 1. As noted above, Hayashi, at most, teaches detecting a focus error as well as a tracking error. However, Hayashi fails to teach or suggest any type of calculating portion used to detect these errors, and in particular Hayashi fails to teach or suggest the presence of a first, second and third calculating portions.

Furthermore, Applicants note that the first detector, recited in claim 1, is divided into eight sections, whereas the first detector (4a) of Hayashi is divided into twelve, and the second detector is divided, recited in claim 1, is divided into four sections, whereas the second detector (4b) of Hayashi is divided into seven sections. Accordingly, the photodetector recited in claim 1 is distinct from Hayashi in that the electrical signals detected and generated from each of the divided areas are different and thus the methods using the electrical signals are also different.

Applicants also note that the first calculating portion, recited in claim 1, calculates a first

tracking error signal using a differential push-pull method. However, as noted in paragraph [0040] of Hayashi, the tracking error signal is calculated using a push-pull method, not a differential push-pull method. Accordingly, Hayashi also fails to teach or suggest this novel feature of independent claim 1.

Finally, Applicants note that the third calculating portion calculates a focusing error signal using the astigmatism method and calculates a tracking error signal using the differential phase detection method from electrical signals converted by the second detector for a CD. However, paragraph [0040] of Hayashi, discloses a method of detecting a tracking error signal and a focusing error signal when a DVD is used. Therefore, Hayashi also fails to teach or suggest this novel feature.

Accordingly, Applicants respectfully assert that the rejection of claim 1 under 35 U.S.C. § 102(b) should be withdrawn because Hayashi fails to teach or suggest each feature of independent claim 1.

As pointed out in MPEP § 2131, "[t]o anticipate a claim, the reference must teach every element of the claim." Thus, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Verdegaal Bros. v. Union Oil Co. Of California, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987)."

Regarding the rejection of independent claim 13, it is noted that this claim recites some substantially similar features as claim 1. Thus, the rejection of this claim is also traversed for substantially the same reasons set forth above.

Regarding the rejection of claims 2, 3, 6-11 and 14-17, it is noted that these claims depend from independent claims 1 and 13. Accordingly, Applicants respectfully assert that the rejection of dependent claims 2, 3, 6-11 and 14-17 under 35 U.S.C. §102(b) should be withdrawn at least because of their dependency from claims 1 and 13 and the reasons set forth above, and because the dependent claims include additional features which are not taught or suggested by the prior art. Therefore, it is respectfully submitted that claims 2, 3, 6-11 and 14-17 also distinguish over the prior art.

**REJECTIONS UNDER 35 U.S.C. §103:**

Claims 4, 5 and 12 are rejected under 35 U.S.C. §103(a) as being unpatentable over

Hayashi (U.S. Patent Application Publication No. 2002/0047084) in view of Izumi (U.S. Patent U.S. Patent No. 6,778,475).

Initially, it is noted that claims 4, 5 and 12 depend from independent claim 1, and as noted above, Hayashi fails to teach or suggest the novel features of the independent claim.

Izumi, on the other hand, is relied upon solely for a teaching of a feature not recited in the independent claim. Accordingly, Izumi fails to cure the deficiencies of Hayashi.

Accordingly, Applicants respectfully assert that the rejection of claims 4, 5 and 12 under 35 U.S.C. §103(a) should be withdrawn because neither Hayashi nor Izumi, whether taken singly or combined, teach or suggest each feature of independent claim 1 from which claims 4, 5 and 12 depend.

Claims 18-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over Hayashi (U.S. Patent Application Publication No. 2002/0047084) in view of Finkelstein (U.S. Patent No. 6,940,805).

Regarding the rejection of independent claim 18, it is noted that claim 18 recites a photodetector comprising: a first detector detecting light components reflected from an optical recording medium and a beam splitter and converting the reflected light components into a first set of electrical signals; and a second detector detecting the light components reflected from the optical recording medium and the beam splitter and converting the reflected light components into a second set of electrical signals, wherein the first detector is separated from the second detector by a predetermined distance proportional to a thickness of the beam splitter.

The Office Action recognizes that Hayashi fails to teach that the first and second detectors are separated by a predetermined distance and relies on Finkelstein for such teachings.

However, although Finkelstein discloses detectors separated by a predetermined distance (column 5, lines 44-54 and Figs. 2A, 2B and 2C), Finkelstein fails to teach or suggest that the predetermined distance is proportional to a thickness of the beam splitter, as recited in amended independent claim 18.

Accordingly, Applicants respectfully assert that the rejection of claim 18 under 35 U.S.C. §103(a) should be withdrawn because neither Hayashi nor Finkelstein, whether taken singly or

combined, teach or suggest each feature of independent claim 18.

Furthermore, Applicants respectfully assert that the rejection of dependent claims 19 and 20 under 35 U.S.C. §103(a) should be withdrawn, at least, because of their dependency from claim 18 and the reasons set forth above, and because the dependent claims include additional features which are not taught or suggested by the prior art. Therefore, it is respectfully submitted that claims 19 and 20 also distinguish over the prior art.

**CONCLUSION:**

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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